AVIATION

The Oldest American Aeronautical Magazine

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Anti-aircraft training—DH4B training its guns on target balloon under tow

Wide World Photo

VOLUME XV

NUMBER 22

SPECIAL FEATURES

ANNUAL REPORT OF CHIEF OF AIR SERVICE

THE RHOEN GLIDING AND SOARING COMPETITION

THE ARMY AIR SERVICE'S ROUND THE WORLD FLIGHT

REPORT OF AMERICAN LEGION AERONAUTICAL COMMITTEE

THE GARDNER, MOFFAT CO., INC.
HIGHLAND, N. Y.
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The Naval Mission of Airships

Much has been said of the commercial possibilities of the airship Shenandoah that its use with the fleet has largely been overlooked.

The mission of rigid airships operating with fleets is that of a far-flung, long range, enduring scout, to obtain maximum information concerning movements and disposition of enemy forces in minimum time, and to convey or transmit such information to the Commander-in-Chief with maximum efficiency. It is not exclusively an independent mission, but one requiring close cooperation with other elements of the fleet.

As an example we might imagine that an enemy fleet had put to sea bound for our shores as escort to a fleet of transports. We had no information as to the course of the fleet, and could only imagine where it would strike. Until such a menace is located it is only to be expected that every seacoast town will be filled with wild rumors as to the presence of fleets in the offing. These rumors can only lead to disturbance of the populace and may confuse headquarters. If we have no airships it is necessary to send a screen of destroyers and scout cruisers to sea to cover the track which it is believed might be used for the approach of such a fleet. These would, of course, use airplanes for further observation, but it would require a large number of such ships and a very great exertion on the part of the Navy personnel to adequately cover the expanse of ocean which must be observed. It would not be a matter of a few hours scouting, but one that very likely would require many days to establish contact with the enemy forces, and to maintain contact until our own forces were favorably disposed to strike.

Had we a fleet of airships, this work on the part of the destroyers and scout cruisers might be eased to a great extent, permitting them to be quickly concentrated for other purposes. The airships would make for the most probable areas of approach and proceed in such a manner that between them they would cover all the areas through which approach is possible, or they might be used in "negative scouting" to discover areas free from hostile vessels for the safe routing of our commerce.

In connection with fleet scouting, experience in aerial scouting by airships is very limited. Before the actual value of rigids for fleet scouting can be determined it will be necessary to obtain this information from actual experience in the fleet. It is, therefore, just as premature to say now that airships are useless for this work, as to say that they are invaluable, but there is a very strong presumption that they are valuable adjuncts of the fleet for scouting purposes.

The airship has the advantage for naval scouting of being able to remain in its own element for comparatively long periods of time, at high speeds, or without motion through the air, and unlike the airplane the rigid is not forced to make a landing after a few hours in the air. It has the further advantage for naval scouting over surface craft of being faster, and of covering a larger area of visibility, and while possibly more vulnerable to gun fire than a surface craft, the rigid can avoid this by taking sufficient altitude, and could pass over an enemy's screen and secure information which might be denied to a surface scout by the screening enemy vessels.

Aerophobia

"ASLEEP at the switch" would be a mild way of accounting for the continued skeptical attitude of American insurance toward aeronautics. There is of course a certain risk in flying, of which reasonable account should be taken. Every advance in science and civilization brings new dangers, although these are always more than counterbalanced by the increased security and health of the people generally. Caution is certainly to be commended but not to the extent of complete paralysis.

For example, in the early days of automobiles, chauffeurs were banned by many of the American life insurance companies. In other words, the man who made a daily business of driving a car was put on a probation list until there was sufficient data collected to show him to be a good risk—quite a reasonable attitude to start with. To have put the manufacturer, the designer, or the occasional automobile passenger on such a list would have been obviously absurd, yet that is essentially the present attitude toward aeronautics. A questionnaire attached to the application blank of one well known company reads something like this:

"Are you engaged in any unusually hazardous work?"

"Have you ever made an aerial flight?" — "If so, list below the occasions on which flights were made."

"Do you contemplate in the future any hazardous journey or any aerial flight?"

The fact is that practically anyone having anything to do with any type of aircraft is simply put on the "black list." Pilots, passengers, engineers, constructors are all lumped together as undesirable risks. Even the name "Aircraft" on an office door seems sufficient to drive away the average insurance solicitor!

There is no reasonable excuse for such an attitude. The records of the past two years in the Air Mail, the Aeromarine Airways, and now the St. Louis meet, are fast removing the aviator from the high risk class, and there is plenty of proof already that the risk run by the occasional aircraft passenger is almost negligible. Safe, practical aviation is here, promising the greatest advance in transportation methods since the introduction of steam railways. Among the first to profit by it will be those insurance companies who see and heed the "hand-writing on the wall."

The United States Army Air Service, 1922-1923

Extracts from the Annual Report of the Chief of Air Service To the Secretary of War

The following extracts from the Annual Report of the office of Maj. Gen. Mason M. Patrick, Chief of Air Service, U. S. Army, to the Secretary of War, released Nov. 11, will be found of considerable interest. The curtailment of Air Service activities has now reached such proportions as to give ominous significance to the paragraph where General Patrick says: "As a result of these various reductions and inadequacies the Air Service is operating on a basis which does not permit the fulfillment of its mission."

Secretary of War Weeks stated on Nov. 12:

"The budget estimates contain $12,500,000 for the Air Service, the same amount as last year. The report of the War Department Board, recommending a ten year building program and annual appropriations of $25,000,000 for the Army Air Service was sent to the Joint Army and Navy Board. A building program of same kind for both services will eventually be approved and submitted to Congress."

It is hoped that when Congress will be placed face to face with the facts in the case, it will authorize a building program enabling the Army Air Service to fulfill its mission in the general scheme of National Defense.—EDITOR.

With the passage of the Army Appropriation Act for the fiscal year 1923 limiting the number of officers to 12,000 for the Army, a more or less proportionate reduction in all arms became necessary. The application of this law by the War Department resulted in an authorized strength of 1,061 officers for the Air Service. This allowance although far short of requirements is nevertheless in excess of the actual strength of the Air Service and was adopted to serve until such time as adequate procurement methods might be devised and put into operation.

Two other problems of vital importance present themselves for immediate consideration. The first of these is the total inadequacy of the Air Service; the second is the need for a radical change in the methods of procurement, replacement and elimination.

The peace organization of the Air Service now bears no relations to the war requirements and affords little or no foundation upon which war requirements in either personnel or material can be built.

The Air Service is expected to perform the dual functions of a supply and combat arm, to develop its own flying equipment, to operate a system of storage supply repair and maintenance, to provide observation aviation for work with the Infantry, Field Artillery, Coast Artillery and Cavalry, and to develop an Air Force capable of bearing the initial burden of any emergency.

Enlisted Personnel

The authorized enlisted strength of the Air Service is 6,764, including 190 flying cadets. In spite of generally poor recruiting conditions an actual strength not far short of that authorized has been maintained during the year with a quality of recruits well above average. As far as possible these men were sent to the Air Service Technical School for training before assignment to organizations.

In the Air Service as in all other arms the reduction in strength at the beginning of the year and the consequent necessity for the demotion of a number of specialists holding higher grades and ratings worked a hardship on those men and affected adversely the morale of enlisted personnel throughout the service.

The same considerations which call for additional officers in the Air Service demand a substantial and a corresponding increase in its enlisted strength.

As a result of these various reductions and inadequacies the Air Service is operating on a basis which does not permit the fulfillment of its mission. Any further reduction will result in greater deficiencies and only a substantial increase can enable it to meet the demands placed upon it. If the required number of officers were available, if the enlisted strength were adequate or if sufficient civilians might be employed the difficulties would not be so perplexing but with continued reductions in every class of personnel efficient operation becomes an impossibility.

The question of an increased Air Service competent to meet the requirements of peace time service and capable of proper expansion in case of an emergency has been considered in every detail by a special committee appointed by the Secretary of War.

New Flying Fields

In the establishment of new flying fields and in the selection for retention of certain ones among those which were operated during the war, every possible effort has been made to develop a comprehensive airway system, to stimulate commercial aeronautics as well as to fulfill the strategic requirements of national defense. The achievement of this ideal has been quite impossible due to the reduced strength of the Air Service, the enforced concentration of activities and the consequent lack of operating personnel necessary for a full complement of stations.

In this connection attention must be again invited to the deplorable conditions which prevail at all Air Service stations. With the exception of a very few isolated permanent buildings the entire Air Service outlay was initiated during the war, pushed to a hasty conclusion and designed to last from but two to four years. These accommodations have now been in continual use since 1917 and while the maintenance costs mount higher and higher with each succeeding year the living conditions become more and more unsatisfactory. Langley Field is the only Air Service station with an appreciable amount of permanent construction and even Langley has no barracks for enlisted men except the one building for which Congress recently authorized an expenditure of $85,000. A complete reconstruction program is imperative and nothing short of immediate and general relief can be relied upon to meet the situation.

Air Service Medical Section

The Air Service Medical Section was organized during the World War, in correlation with the rapid development of aviation at that time. Its purpose was to study the effect of flying from a medical point of view in order that aircraft accidents attributable to physical unfitness might be reduced to a minimum. This was accomplished through the determination of proper physical requirements, through the conduct of frequent and thorough examinations, and through close personal contact with the flying personnel. The rapid strides in this new branch of medicine made during the period of emergency have formed the basis for continued research and progressive development since the cessation of hostilities and it is gratifying to report that not one of the accidents recorded during the year can be considered as resulting from the physical or mental condition of the pilot.

It is considered that the annual appropriations for the support of the Air Service since the World War have been inadequate. In view of the rapid development of aviation the requirements of continued engineering and research work constitute an imperative need while the shortage of aircraft occasioned by the lack of funds for replacement will shortly present an extremely critical situation. It is therefore urgently recommended that a program be adopted and adhered to until this service is properly equipped and on an efficient operating basis.

Engineering and Research

In carrying out this vitally important work every effort was made to employ the most efficient practices now recognized in the commercial world. The Engineering Division operates under carefully prepared programs, maintains an accurate system of cost analysis and conducts its numerous and varied activities with the utmost thoroughness and economy. Under such trying conditions as have been imposed by the continued curtailment of appropriations the splendid achievements of the division are particularly noteworthy and have been made possible only through the unselfish loyalty and whole-hearted cooperation of its entire personnel.

The continued decrease in appropriations permits the undertaking of only the most immediate and important problems and practically precludes the possibility of research work. The effect of this has already been made too apparent through failures due to unknown strains and stresses in high speed airplanes. Fundamental research though a tedious process, and one which is fruitful only after long periods of patient application, is nevertheless the vital need and the surest means of real advancement in the science of aviation. It is urgently recommended that increased appropriations be made available for this purpose in subsequent years.

Supply and Equipment

Emphasis must be placed on the critical condition which exists with regard to major items of equipment, viz., airplanes, airships and balloons.

The great majority of the aircraft now on hand were produced during the war, are rapidly deteriorating and even when completely reconditioned, have but a very short life. Furthermore, 80 per cent of the airplanes are of an obsolescent training type, unsuitable for combat purposes. It is absolutely essential that the purchase of new aircraft to replace that produced during the war and to off-set the constantly increasing shortage, be undertaken immediately. Since it requires about eighteen months to secure delivery after a contract has been executed, it is apparent that no relief from the present situation can be expected before 1926. Appropriations now being made for the purchase of new aircraft are insufficient to meet the requirements of even the present inadequate peace-time establishment of the Air Service.

In conclusion it is desired again to point out the lack of an adequate aeronautical industry in the United States. Unless such an industry can be built up in time of peace the wartime procurement program must fall far short of its goal. The solution of this problem lies in the development of commercial aviation through the timely enactment of suitable legislation and in the judicious expenditure of such funds as may be appropriated for the support of government aeronautical activities.

Proposed Airways System

The Air Service has held it as a duty and a privilege to foster the growth of aviation through the investigation and development of a comprehensive system of airways covering the continental limits of the United States. This work was undertaken immediately after the World War and as its importance became increasingly apparent an Airways Section charged with all functions incidental thereto was created in this office.

Briefly stated, the plan contemplates an organized system of airways equipped with adequate meteorological and radio stations, embracing terminal facilities for aircraft every two hundred miles, routed when possible so as to keep the planes within gliding distance of substations at all times and provided with markers for both day and night flying.

Since the majority of aircraft accidents result from forced landing on unfavorable terrain or from adverse weather conditions it is apparent that the perfection of such a system is probably the greatest contribution this service could make to the cause of commercial aviation. Assuming the enactment of suitable legislation covering the legal phases of aircraft operation there would remain no other vital impediment to the rapid development of aerial transportation facilities. And not alone to the commercial endeavor would such a system lend its aid. The advantages of well defined routes of aerial travel have already made themselves apparent in the routine operations of the Air Service and would become increasingly so in time of emergency with the rapid concentration of Air Force units as a vital concern of National Defense.

With the development of a national system of airways fully equipped with communication and meteorological facilities the hazards and risks of commercial flying will for the most part have been eliminated.

Reserve Officers' Training Corps

There has been no increase in the number of Air Service units of the Reserve Officers' Training Corps since the date of the last annual report of the Chief of Air Service. The six units now maintained by the Air Service at civilian educational institutions had a total enrollment during the year of 801 students.

This total represents a gain of 150 since the last report and the Air Service officers in charge of these units confidently predict further increases during the next school year.

On duty with the above named units as directors and assistant directors there are eight officers of the regular establishment and six enlisted instructors. Due to the extreme shortage of commissioned personnel it has not yet been possible to assign officers as assistant directors at all institutions, but it is hoped that this deficiency may shortly be remedied.

National Guard

There have been no new Air Service units of the National Guard organized during the year.

Due to the limited amount available for the Regular Army no service type airplanes can be furnished the National Guard now, or for several years to come. The handicap thus imposed is largely overcome, however, by affording transition training to service types during the period of the annual summer encampment.

In the last annual report, the Chief of Air Service expressed some doubt as to advisability of continuing the Air Service as a part of the National Guard. This doubt, however, has been dissipated by the excellent showing made during the year. The Militia Bureau has been able to provide sufficient funds for the maintenance of a few enlisted mechanics on continuous active duty with each organization and all but major items of repair can now be performed at the home airdrome. This insures continuity of operation and eliminates to a large degree the expense and delay of shipping equipment to Air Service depots for repair.

That the National Guard Air Service is an effective and efficient force available for practically immediate field service in an emergency cannot now be doubted and the action of the Militia Bureau in authorizing the organization of sufficient new units to provide a divisional Air Service with each of the eighteen National Guard divisions meets with the hearty approval of the Air Service.

Organized Reserve

On June 30, 1922, there was a total of 7,995 officers commissioned in the Air Service Officers' Reserve Corps. During the year this number has been increased to 8,249 distributed in corps areas and by grades. Of this total, 5,640 hold flying ratings, 5,499 as heavier-than-air pilots or observers, and 141 as balloon and airship pilots or observers. The increase noted is attributed largely to the inauguration of correspondence courses, to the interest aroused by the establishment of additional airdromes at several of our larger centers of population where flying facilities have been available for the use of reserve officers.

The most essential phases of the training of Reserve officers of the Air Service is actual flying practice. This is true to such an extent that unless means can be provided whereby an officer entering the Reserve after the completion of his flying training can participate in regular and frequent flights, the Air Service Officers' Reserve Corps becomes a 'force' in name only and is in reality nothing more than a pool from which officer material suitable for training may be drawn. To maintain the effectiveness of our Reserve, then, it is imperative that additional airdromes be established near our

larger centers of populat on. The appropriation uf funds for this purpose is earnestly recommended. Such fields are not only training centers for the Reserve, but become important terminals on a national system of airways and thus aid materially in the development of commercial aeronautics.

Civil and Commercial Aviation

The operation of aircraft for commercial purposes in the United States has unfortunately advanced little, if any, during the last year. The Aeronautical Chamber of Commerce estimates that approximately 1,200 commercial aircraft, the same figure as for 1921, were in operation, losses and depreciation being compensated for in new construction and in the release by the government of additional surplus equipment.

As in 1921 it is estimated that about one-half, or 550 of these aircraft are in the hands of itinerant fliers, whose movements are very difficult to trace and 650 are under the control of fixed-base operators or those whose business responsibility is clearly recognized.

While in 1922 there was perhaps a decrease in civilian flying, as compared with 1921, commercial aviation as a whole has been upon a much sounder basis. Stunt flying with passengers has diminished in favor of paid flying without passengers and under stricter safeguards. There are growing instances of "taxi flying" or long distance cross-country flights with passengers or cargoes of merchandise. This taxi-flying is an approach toward regular scheduled air transport, which is the aim of commercial aviation.

Situation of Commissioned Personnel

The injustice of the single list, the unusual requirements of flying duty and the peculiarities of Air Service organization demand a separate promotion list for Air Service officers with appropriate provisions for retirement. As far as possible, the excess of officers in the grades of Captain and Lieutenant over and above the number which, in view of the small percentage of field officers in the Air Service, can be handled smoothly in the ordinary processes of elimination, replacement and promotion, should be Reserve Officers on active duty for the short period of their maximum efficiency as fliers.

H. A. Bruno & Associates

The formation of an organization for the planning and execution of information campaigns on a national scale was announced recently by H. A. Bruno and R. R. Blythe, both of whom are well known in the aeronautic industry. The name of the new organization is H. A. Bruno & Associates, with executive offices at 210 West 44th St., New York. The announcement is of particular interest to manufacturers and operators of commercial aircraft and accessories, inasmuch as three of the best known aircraft concerns are listed among their clients. The information and sales promotion work of the Netherlands Aircraft Mfg. Co., the Fairchild Aerial Camera Corp. and the Skywriting Corp. of America is now being handled by Mr. Bruno and his associates.

Mr. Bruno has had an extensive experience in aviation, as a pilot who learned to fly among the early pioneers and as also an ex-newspaperman. He was born in England, and attended school at Montclair, N. J. He has had extended newspaper experience having specialized in advertising. His interest in aeronautics dates from 1909 when he built and flew a small glider. For several years his interest in glider development continued. In 1917 he enlisted in the Royal Flying Corps in Canada. In 1919 he joined the Manufacturers Aircraft Association and was on their publicity staff until 1921 when he became publicity director for the Aeromarine Airways, Inc. In addition to this work, Mr. Bruno handled the sales and advertising for Aeromarine. His work in the development of commercial aviation in this country while with the Aeromarine Airways has been highly praised, particularly his management of the Detroit-Cleveland route. During the last few years he has made many long cross country flights.

Mr. Bruno is the author of "The Flying Yankee" and has contributed to many magazines.

H. A. Bruno

Richard R. Blythe is a pilot and has also been interested in the commercial side of aviation for a number of years. He has done much valuable development work in regard to the insurance problems of aviation, particularly in connection with Johnson & Higgins of New York.

Mr. Blythe was born in Canada and during the war served with the R.A.F. He conducted for several years the Aeronautic Executives Luncheon at which some of the most prominent men in aviation have been guests and discussed current aviation topics. Mr. Blythe has also written numerous magazine articles on aviation.

The other members of H. A. Bruno & Associates are Messrs. C. L. Dunlap, T. McAllister and A. B. Wilson, all former newspapermen of wide experience. The new organization will not confine its activities to the aeronautic industry but will engage in general accounts as well.

Industrial War Plant Survey

Under the organization name of Industrial War Plans Section, the U. S. Army Air Service and the U. S. Naval Air Service have combined in a business project which will have for its prime motive of existence a standardized air program. A survey of all industrial plants in the country will be made by the new organization. The commodity, equipment and output of each industry will be learned and it will be the duty of the body to supply the United States Air Service with all equipment going into both Army and Navy airplanes.

This system, according to officials, will eliminate all competitive bidding between the two branches of the government Air Services and bring about a subsequent reduction in the cost of airplane production.

It will be the purpose of the organization to standardize all aerial equipment, to keep a supply of each separate part on hand and to supply the government with such parts as requisitioned, either from the stocks or to order them from the factory most suited to manufacture them within the shortest space of time.

In the organization there are six area chiefs with offices located at Dayton, New York, Buffalo, Chicago, San Francisco and a substitute office to the Dayton branch at Akron.

Maj. James A. Mars will have charge of all branches of the organization. His headquarters will be at Washington, where he will be attached to the staff of General Patrick.

The Army Air Service's Round the World Flight

Four or Five Liberty-Engined Planes with 20 hr. Endurance and Convertible Landing Gear to be Used

The Secretary of War has approved the project submitted by Maj. Gen. Mason M. Patrick, Chief of Air Service, to send a flight of four or five Army airplanes around the world during the coming spring and summer months to demonstrate the feasibility with which aerial communication may be established between the various continents and to obtain desired information concerning the operation of present type aircraft in various climates of the world.

The route of the flight will not be definitely determined until authority has been received from all of the foreign governments whose territorial rights are involved. The Department of State is conducting correspondence on the subject with these governments. The tentative plans for the flight are as follows:

The Route Proposed

Leave Washington, D. C., about the middle of March and proceed to Seattle, Wash. Depart from Seattle about the first of April, 1924, flying northward along the coast of Canada and southern Alaska; across the Aleutian Islands; down through the possessions of Japan, along the shore of China, French India China, Siam and Burma; across India; up the Persian Gulf; across Turkey and Europe to England; thence north through the Faroe Islands to Iceland; thence to Greenland and southward along the eastern shore of the continent

Photo International

Douglas "World Cruiser" (Liberty 12 engine), with wings folded, recently tested at Santa Monica, Calif., for the Army Air Service's proposed round the world flight

to Cape Farewell, Greenland, from which point a direct flight will be made to Hamilton Inlet on the Labrador Coast, thence southward along the Canadian shore and up the St. Lawrence River to Quebec and Montreal, from which point the flight will proceed south to Washington, D. C., which was the original point of departure. Such an itinerary will, it is hoped, enable fliers to dodge the rainy seasons in the United States and India and insure their passage through Iceland and Greenland during August and September.

The World-Cruisers

The flight will consist of four officers and four enlisted men well qualified for a long and arduous flight. The selection of this personnel is now under consideration.

The airplanes will be Douglas World-Cruisers, designed and built by the Douglas Airplane Co. of Santa Monica, Calif. They have Liberty engines. At Seattle, Wash., they will be equipped with pontoons. Water landings will be made in sheltered harbors along the coast of British Columbia, Alaska and through the Aleutian Islands, down into Japan. The present plan contemplates the removal of the pontoons and the use of landing gears from Tokio, Japan, or from Calcutta, India, depending upon the conditions which the flight encounters enroute. Landing gears will be used across Asia Minor and Europe, as far as Hull, England, where pontoons will again be placed on the airplanes and used until the flight reaches Montreal or Keyport, N. J., at one of which points the pontoons will again be replaced by landing gears for completion of the flight.

The existing airway facilities will be utilized in the United States, southern Japan and between India and London. The intervening sections of the route will be given further study by officers, who will proceed over the route prior to the arrival of the flight.

Pathfinders Now at Work

A path-finding expedition of two officers was sent out some time ago. Lieut. Clarence E. Crumrine, A.S., is at the present time in Greenland, investigating facilities for aviation in that country. Lieut. Clifford C. Nutt, A.S., now in the Philippine Islands, is prepared to visit Japan to make preliminary arrangements when the wishes of that government are determined. Both of the officers were members of the successful Alaskan Flying Expedition in 1920.

A detailed study of the route is being made in the Office of the Chief of Air Service. The Coast Guard is obtaining data on facilities between Seattle, Wash., and Attu Island in the Aleutian Group, which is the point of departure of the flight from the United States possessions.

Lieut. Erik H. Nelson, A.S., has been assigned to duty for the past two months at the Douglas airplane factory at Santa Monica, supervising the construction of a special airplane for this flight. Lieutenant Nelson was the engineering officer on the Alaskan flight and, also, on the last year's flight of six Army airplanes from San Antonio, Tex., through the West Indies to Porto Rico and return to Washington, D. C. Through his efforts there has been built a very successful world cruiser, capable of over 20 hr. endurance.

The proposed airway around the world has been subdivided into six divisions. First division, beginning at Washington, D. C., and ending at Attu Island in the Aleutian Group. Second division, ending at Nagasaki, Japan; Third division ending at Calcutta, India; Fourth division, ending at Constantinople, Turkey; Fifth division, ending at London (Hull) England, Sixth division, ending at Washington, D. C. It is proposed to have one advance officer cover each section of this route to obtain detailed information on landing facilities, on land or water transportation, airways, meteorological and climatic conditions and other pertinent subjects.

Supplies will have to be shipped from the United States to various points on the route several months in advance of the flight, and for this purpose each division will have a main depot with one or more sub-depots for major items of supply. Gasoline, oil and smaller articles of supply will be placed at practically all stops.

The longest hop, according to present plans, will be from Attu Island to Paramishiru Island, in the northern part of the Kurile Islands Group, a possession of Japan. Other long hops will be necessary over the Atlantic Ocean between the Faroe Islands and Iceland, between Iceland and Greenland, and between Greenland and northern Canada, the longest of these being about 700 mi.

Previous attempts to encircle the globe by air have been unsuccessful, so the Army Air Service is entering upon the plan with a keen desire to add the accomplishment of a round-the-world flight to other records held by American aviators.

Aeronautics to be Taught at N. Y. University

Courses Endorsed as Fulfilling National Need by President Coolidge, Secretary Weeks and Secretary Denby

After an exhaustive study of the field of aviation in the United States, New York University has inaugurated courses in Aeronautical Engineering and Industrial Aviation in its College of Engineering at University Heights. The establishment of these courses is part of a plan to advance among American youth the study of the designing and utilization of commercial airplanes and to develop among college students a body of highly skilled aeronautical engineers.

The plan has been given the financial support of a large group of famous pioneers of aviation, airplane manufacturers and operators and business and professional men.

Distinguished Endorsements

President Coolidge, Secretary Weeks and Secretary Denby and other high officials of the Army and Navy have given the plan their hearty approval. The President in a recent letter on the subject said:

"I am glad to know, from your letter of Oct. 8, of the practical move in behalf of aviation development that has been made by New York University in establishing a course in aeronautical engineering and industrial aviation. Convinced, as I am, of the great importance of aviation in connection with the national defense, and of the necessity for its development as a means of transport and communication in peace, I feel that all encouragement should be extended to such efforts as the University is putting forth."

John W. Weeks, Secretary of War, writing in the same connection, says:

"As an alumnus I am very proud of the fact that New York University is among the first of our educational institutions to add this branch of science and engineering to its curriculum. As Secretary of War, I thank you for this cooperation and assistance in promoting our national defense."

Edwin Denby, Secretary of the Navy, discussing New York University's new courses, wrote:

"The Navy Department believes that such a course will be of inestimable value in helping to instill in the people of this country a knowledge and an interest in aeronautics, which will obviate all possibility of our falling behind the other powers of the world in the advancement of this newest and most important science. I do, therefore, repeat my endorsement of this movement on your part and wish you the successful consummation of your plans that your far-sightedness deserves."

Maj. Gen. M. M. Patrick, chief of Army Air Service; Rear Admiral W. A. Moffett, chief of the Naval Bureau of Aeronautics, and Paul Henderson, Assistant Postmaster General in charge of Air Mail Service, have all strongly endorsed the University's program to make their new project of national importance.

Those in Charge of Course

This innovation in college work, described as courses in Aeronautical Engineering and Industrial Aviation, has been made a part of the curriculum of the Department of Mechanical Engineering in the College of Engineering at University Heights. A distinguished faculty will be in charge, under the direction of Prof. Collins P. Bliss, head of the Department of Mechanical Engineering, and Alexander Klemin, who will be appointed associate professor of aeronautical engineering.

During the war Mr. Klemin was officer in charge of the Research Department of the Army Air Service, and later consulting engineer to the Air Mail Service. Prof. Joseph W. Roe, head of the Department of Industrial Engineering, is a well known expert in industrial lines and is on the Faculty Aviation Committee with Dr. John C. Hubbard, head of the Department of Physics. Augustus Post, for many years associated with aeronautical activities in New York, has been appointed secretary of this committee.

Visiting lecturers will include such men as Grover C. Loening, president of the Loening Aeronautical Engineering Corp.; R. W. Cowie, vice president of the American Railway Express Co.; J. E. Whitbeck, superintendent of the Eastern Division of the Air Mail Service; E. Stockton Martin, expert on aircraft insurance; Powell Crichton, an attorney interested in the legal aspects of aviation; Maj. J. S. Savage, of the Skywriting Corp. of America; Sherman M. Fairchild, president of the Fairchild Aerial Camera Corp.; Maj. Hamilton Maxwell of the Hamilton Maxwell Aerial Photography Service, and H. A. Bruno of the Netherlands Aircraft Manufacturing Co.

The new courses at New York University cover specifically the study of aerodynamics, the science of air flow and forces, the theory and practice of airplane design, the theory and practice of airship design and the study of aircraft engines. It is the object of these courses to train men who will advance the art of aircraft design and construction in a thoroughly practical yet scientific manner.

Industrial Aviation Work

In the work devoted to industrial aviation attention is concentrated on air transportation, passenger and freight, on an extensive study of air mail operations, the organization of landing fields and airways, the technical and financial analysis of aviation projects and on such industrial applications of the airplane as aerial photography, now being used on a large and increasing scale, as aerial surveying, which is proving an invaluable adjunct in public service work, and in engineering enterprises of all kinds, such as forest patrol and surveying, aerial advertising and numerous other industrial applications.

"The United States holds almost all the records for speed, climb and endurance for any craft that flies", said Professor Klemin, discussing the need for such courses as those established at New York University. "The Pulitzer and Schneider cups are both here, but America lags far behind in the design and utilization of commercial airplanes and in the training of highly skilled aeronautical engineers. The scope of aviation in the United States is limitless; yet, while Europe with its short distances is covered with a network of air lines, connecting all important cities, over here but one or two lines are in operation. And Americans, strangely enough, provide the bulk of the passengers on the London-to-Paris route.

"Commercial aeronautics should revolutionize the technique of transportation and bring untold benefits to business and industry. It is already showing a promise of what it can do in the wonderful night mail from New York to San Francisco, in the application of aerial photography and in a dozen other ways. But this is only a fraction of what it might do.

"Moreover, it has the most important part to play in any scheme of national defense. In any war emergency it is an undisputed fact that aircraft will play an extremely important part, if not a predominating one. No matter how much money may be spent on military and naval aviation, our air defense would never be adequate to meet an emergency unless the fighting service could draw on a reservoir of men and machines from the commercial field. It takes a long time to build a plane or train a pilot, but it is only a question of a few days to convert a mail plane into an efficient army observation machine; of a few weeks to convert a mail pilot into an efficient air fighter.

"Commercially, time and distance are being annihilated. Secretary Denby predicts 'two days to Europe in a dirigible.' Remote nations are becoming neighbors. Today merchandise is being delivered in Paris from Czecho-Slovakia in a few hours that by land transportation takes days. A merchant, especially one handling valuable goods, may some day find that by land transportation his order of goods is only half way to him while his competitor received and delivered his by air the day before.

"The business and industrial interests of this country still to a large degree regard aircraft as purely of military and naval interest or at best as a highly spectacular and romantic form of thrilling sport. Now New York University is planning to furnish the men that will help to change their viewpoint."

The undergraduate course in aeronautics is open to students of New York University who have successfully completed three years' work in the Department of Mechanical Engineering and to students of other universities who can demonstrate similar qualifications. Those entering the College of Engineering in February, 1924, and thereafter will be permitted to enroll for the "Aeronautical Option" in the Department of Mechanical Engineering.

Students in the postgraduate course must be graduates of recognized engineering colleges, technical schools of the Military or Naval Academy.

Evening courses will be provided at an early date, open to engineers, draftsmen and mechanics engaged in aircraft construction and operation and to others interested in advancing their knowledge of aeronautical matters.

The 1923 Rhoen Gliding and Soaring Composition

This year's German gliding and soaring meet, held as in previous years in the Rhoen hills, caused some severe disappointments, judging by comment appearing in German contemporaries. Although 98 entries were received, a large number of these did not actually participate, while those that took part in the various events did not produce any startling performances.

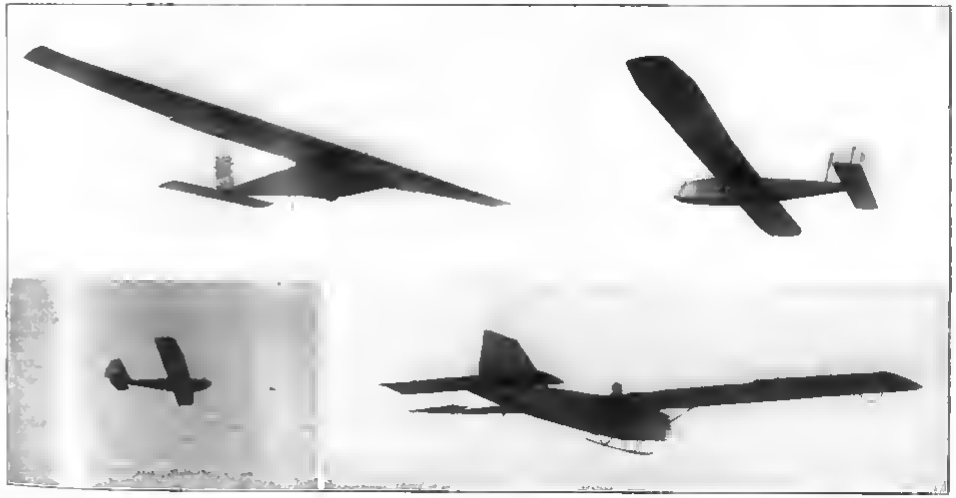
Only one of the existing world's records was broken, that for straightaway distance, when on Aug. 20 Martens flew the Stolch glider a distance of 11.8 km. (7.3 mi.) in 45 min. This glider bears considerable resemblance with the Hannover glider on which Martens and Hentzen made two and three duration flights last year, as may be seen from the accompanying illustration of the machine.

The best duration flight was made by Erik Thomas on a Darmstadt glider "Oeheimrot" of last year's design, the time being only 55 min. as against the world's record of 8 hr. 5 min. made by the French pilot A. Maneyrol at Cherbourg, France. Although the principal prizes were to be awarded for a minimum performance of 20 km. (12 mi.) straightaway distance and 350 m. (1150 ft.) height above the starting point, neither of these conditions was fulfilled by a single contestant. Hackmack on the Darmstadt glider made the best altitude flight, reaching a height of about 1000 ft.

The accompanying illustrations which show four of the most notable gliders that took part at this year's meet indicate that there has been a general tendency to follow the lines of the Hannover glider. This tendency is particularly noticeable in the design of the new Harth-Messerschmidt glider, which seems to have lost all the originality which characterised the early models.

A good many gliders crashed during the meet, and several pilots were more or less seriously injured, showing that gliding experiments are a very hazardous business. On the last day of the meet, Aug. 30, a monument was unveiled on the Wasserkuppe commemorating those fliers who gave their lives in endeavoring to further the art of gliding flight. Unfortunately, during the inaugural ceremonies, the Erfurth monoplane glider piloted by Standfass, while flying in a strong wind, broke a wing in mid-air and crashed from a height of 100 ft., killing the pilot.

The unsatisfactory showing made at this meet is attributed to various causes, which are summed up by a German observer in the words: "Our gliding men build too much and fly too little", by which he apparently means that too many, often unsound, designs are experimented with under most dangerous conditions and too little is done toward methodical gliding experiments on well tried machines.



New gliders at the 1923 Rhoen soaring meet—Upper row, left, the Stolch glider on which Martens made a flight of 7.3 mi.; right, the new Harth-Messerschmidt.—Lower row, left, the the Dessau glider; right, the Essen glider

Report of American Legion's Air Committee

Report Emphasizes Importance of Commercial Aviation in its Relation to National Defense

The National Committee on Aeronautics of the American Legion was created by resolution adopted at the National Convention in New Orleans in 1923. It was instructed by the Convention to "so cooperate with the United States Army Air Service and other nationally recognized institutions and organizations devoted to the interests of Aeronautics, and through the medium of our local posts, county and state organizations to arouse the interest of the people in the development of commercial aviation * * * and that said Committee on Aeronautics * * * shall serve without pay or expense."

The Committee has served without pay or expense—and has therefore been unable to follow expressly the New Orleans Convention instructions to work through the posts, county and state organizations. It has been impossible to hold even one meeting of the Committee or to attend meetings of the organizations with which we were instructed to cooperate.

Aviation Policy of the A. L.

The Committee found upon its formation that the American Legion had no policy regarding Aviation, nor had any action been taken prior to the passing of the resolution passed at the New Orleans Convention. It was obviously necessary to determine an Aviation policy to serve as a plan of operations. Such a plan was submitted to the National Commander, Dec. 26, 1922. The policy as outlined at that time was approved by the Committee on Aeronautics with but one dissenting vote and was later approved by the National Executive Committee at its meeting at Indianapolis on May 19 and 20, 1923. The policy is briefly as follows:

With the possible exception of a very few, the Army and Navy strategists of the world agree that control of the air is a practical necessity for a victorious result in combat on either land or water. It is even maintained that sufficient air strength could of itself keep our shores free from enemy landings. However, such an air service would be very expensive to support in time of Peace—and there is a way to gain the desired result without such a large expenditure. That way is the development of a Merchant Air Marine.

With such a civilian force in existence the country would require an Army and Navy air establishment, only sufficient to form the backbone in case of emergency—and to supply and drill the needed personnel highly trained in the fighting and allied sciences. The pursuit force must be maintained by the Government in its entirety practically—because the modern fighting plane is good for little else. Other special types would also be of little value to the civilian flier—and would therefore be kept up by the Army or Navy.

On the other hand the very requirements for good passenger and freight carriers make them susceptible to conversion into military types quickly. The freight and passenger carrier of tomorrow may easily be designed to receive bomb racks, sights, cameras and defensive armament in place of its usual load.

Value of Civil Aviation

It may be seen that the commercial machines themselves hold a real value as a reserve force—but the greatest value of a Merchant Air Marine would come from two other sources. In the first place it would give us a very large force of men to fly and care for planes and dirigibles of every type—men who would be experts in their work and who in time of war could at once take over identical work with the armed forces—in other words a Merchant Air Marine would give us a reserve operating personnel who could at once be transposed into active units—because their jobs in peace and in war would be the same.

The second, and equally valuable asset accruing from a Merchant Air Marine, is the production facilities. These include not only the plants and equipment but men who know what is needed and how to produce it. A civilian activity of some magnitude would make it possible for capital to earn sufficient return to warrant investment in plants and laboratories and for aeronautical engineers to eat regularly. With this production equipment available the government could quickly put into production the special machines it had developed for strictly war use.

It is probable that the Nation would not base aid for a Merchant Air Marine on purely a defensive reason. It is fortunate that history gives us another line of appeal—and one that is equally sound. We refer to the fact that nations rate as world powers largely as they rate commercially—and standing in commerce is dependent upon transportation to an important degree. A nation with an out of date transportation system is under a severe handicap in its efforts to reach the world's markets and to efficiently handle its own internal distribution problems—and it therefore cannot measure up to and compete with other nations that have modern transportation facilities. In our country every type of transportation has enjoyed government aid directly or indirectly—the canals, the roads, railroads right of ways, harbors, etc., are silent evidence of the acceptance of the principle.

Commercial Progress Abroad

Throughout the civilized world commercial aviation is progressing. France, England, Germany, Japan and other foreign powers are using government funds and aid to develop reserves for war—but they are securing improved aids for business. Our country must maintain its leadership among the world powers—and to do so it must develop a Merchant Air Marine comparable to those of the rest of the world.

Such an institution cannot be built at once. A gradual program must be put into effect—constructive and based on a vision of the future. The first requirement in such a program is proper government legislation to regulate and nourish flying. It must be national legislation—because of the very nature of the activity to be regulated—and it must be legislation designed to regulate for the good of aviation—so a Merchant Air Marine will grow on a sound foundation.

The Committee feels that the bill entitled "Civil Aeronautics Act of 1923" introduced into the House of Representatives Jan. 10, 1923, by the Chairman of the House Committee on Interstate and Foreign Commerce, is admirably drawn and worthy of the active support of the American Legion. The Committee so informed the National Legislative Committee of the American Legion, which thereupon exerted its efforts in behalf of the bill at the last session of Congress.

The Civil Aeronautics Bill

The bill provides for a Bureau of Civil Aeronautics in the Department of Commerce, to be administered by a Commissioner of Aeronautics. It directs the commissioner to promulgate regulations for the license and operation of aircraft and airports and for proper inspection of both material and personnel. It is primarily interested in the safety of the public and the Committee feels that safety is the primary need of a Merchant Air Marine. The bill also amends existing immigration, narcotic and criminal acts to fit them to the requirements of the new transport.

Due to the stress of other matters the bill did not reach a final reading and was "unfinished business" when Congress adjourned. The Committee understands that the bill is to be introduced into the coming session of Congress and urges energetic support from the American Legion and from all other organizations and individuals interested in national progress and defense.

The second basic need of a Merchant Air Marine is proper provision for landings—"Airports"—if you please. The Committee recommends that the various posts, county and state

organizations of the Legion support actively and originate if necessary all legitimate efforts to secure the establishment at once of municipal landing fields.

The Committee feels that there is a great need for scientific research—and the National Advisory Committee for Aeronautics is an agency that should continue to receive financial aid from Congress. The Army and Navy should have such appropriations as will enable them to continue their building program. We believe their allotment of personnel and equipment should be increased to the point where they will have in peace all the strength they cannot secure hurriedly in emergency from the Merchant Air Marine.

Hartzell FC1 commercial plane (Curtiss OX5 engine) with which Walter E. Lees (on right) won the Flying Club of St. Louis Trophy race, Oct. 4, at St. Louis. This race was open to two-seater planes of 90 or less horsepower. Pilot Lees won the race at an average speed of 89.31 mi./hr.

The Air Mail Service should be maintained and increased. This service is the greatest practical air laboratory on earth—and has already made many contributions of inestimable value. The requirements for air mail performance are such that they tend directly to develop equipment and knowledge of great value to a Merchant Air Marine—and because the Air Mail earns more money directly, it can do much more work per dollar of appropriation than any other government flying organization.

We recommend a continuation of the air patrol of the great forest districts. This work not only tests machines and personnel—but it pays excellent dividends in the way of timber saved from destruction by fires. It is one of the few direct ways the military can pay part of its own way.

Need of Aeronautical Education

One of the greatest needs of Aviation is education. Members of the Legion and the citizens of the Nation do not appreciate the progress of the Art in this country and abroad. It is with pleasure that we report a most satisfactory cooperation from the *American Legion Weekly* during the past year. We urge a continuance of their policy of publishing articles on the progress of Aviation both at home and abroad.

The Committee was not consulted by the officials of the *Weekly* before publication in August of editorials proposing an international conference for the limitation of air armament. We did not believe the nations of the world would enter into such a conference—but we agree that such limitation if possible is desirable and so advised the Editorial Board of the *Weekly*. We feel that efforts to secure such limitations are in line with the Legion Policy of intelligent limitation of all types of armament as opposed to either militarism or complete pacifism. We believe such limitation would result in a valuable impetus for commercial aviation. We object emphatically to any program which tends to make our nation practically impotent in the air while other nations build up their offensive and defensive air power. Until an effective international air limitation agreement is completed the United States should energetically pursue an intelligent building policy.

The Committee has been of some service to individuals in settling disputes over the purchase of surplus war material and reports a prompt and satisfactory cooperation on the part of government departments involved. It has also begun efforts to secure payment of back pay for air service cadets for July, 1918, amounting to $50.50 per cadet. This claim is based on adjustments already made for the months of April, May and June, 1918, but because of recent decisions will require specific congressional appropriation. It is recommended that this effort be continued.

Individual members of the Committee have given much of their time to aiding the progress of the aviation branch of the National Guard in various states. It is urged that local posts, county and state organizations cooperate wherever possible in forming and operating such organizations. They contribute much to national defense and in addition aid in familiarizing the public with aviation.

The Committee through its Vice-Chairman has secured permission from the railroads of the nation for the use without charge of necessary parts of their rights-of-way for the erection of national system of ground markers for the guidance of fliers.

In order that the efforts of the National Committee on Aeronautics may be more intensive it is recommended that each department of the American Legion create and organize a committee on Aeronautics to aid in furthering the national policies herein contained and those adopted in the future, and to give such attention as is possible to local aviation matters within the jurisdiction of its own department.

The Committee recommends that sufficient monies be made available in the future to provide for the expense of at least one annual meeting of the Committee of Aeronautics between Conventions, and to provide for reasonable expenses incurred in activities undertaken on the direction of the National Commander or the National Executive Committee.

French Fliers May Compete Here

As a result of a visit paid to the president of the French Aero Club by George S. Johns of *The St. Louis Post Dispatch*, representing the N A A, it is expected that French airmen will next year take part in America in competition for the Pulitzer Trophy, the Schneider Cup and other international trophies.

Mr. Johns, in a short address at the Aero Club of France, expressed the hope of American airmen that next year some such excellent French flying man as Sedi Lecointe would come to America and try to recover the trophies which had found their way across the Atlantic. The Aero Club gave him a sympathetic hearing and the general hope is that the international character of the competitions will be maintained.

The French on their side are anxious to have the United States send representatives to take part in the competition for the Beaumont Cup, which will be held in June.

AIRPORTS AND AIRWAYS

Chicago News

By Otto Klein

The largest aerial demonstration held in Chicago since the famous meet in 1911 took place at Ashburn Field on the afternoon of Armistice Day, Nov. 11, when the Army Air Service staged one of a series of air carnivals that are being held in different parts of the country as a benefit for the Army Relief Society. These meets, the result of which will provide relief for the widows and orphans of officers and enlisted men of the Regular Army, have been authorized by the Secretary of War and will be conducted by the personnel of various Army flying fields, the Chicago meet having been arranged by the officers of Chanute Field under the supervision of the commanding general, Sixth Corps.

The meet opened with sky writing by Lieut. Brookley of McCook Field, who later came down close to the spectators, doing loops and turns with smoke issuing from the tail of his ship. This was followed by several fast pursuit ships doing some wonderful aerobatics. It was during the event that the only accident occurred, Lieut. Benjamin R. McBride of Selfridge Field diving to his death during the maneuver of looping and barrel rolling some 200 ft. off the ground. Opinions differ on whether his motor cut or whether he was merely too low to pull the ship out of the dive. The fact remains, however, that the ship crashed nose first, leaving nothing but a mass of debris. Lieutenant McBride died immediately after being pulled from the wreckage.

From then on the meet took its course without further mishap. "Messengers" whizzed about, the put, put, put of their small engines often being drowned out by a fleet of DeHavilands doing formation flying overhead. Pursuit ships dropped miniature bombs, a Martin bomber laid a dense smoke screen across the field, a Blimp floated carelessly about. At last, when the evening haze became apparent and the great crowd began their homeward journey, the Barling Bomber came thundering through the air. It was feared that Ashburn Field would be too soft for this immense ship to land in, so it remained at the mail field instead and just made an overhead visit to the air meet.

From the air Ashburn Field appeared like a map of a huge railroad center, the spectators forming a black circle around the edge of the field and streams of black topped cars radiating from this in all directions as far as the eye could see. The attendance, estimated at 50,000, exceeded by far all expectations, though the people who came by street car had to walk three miles. The automobiles present numbered about 10,000, jamming the roads in all directions. It clearly showed that the people of Chicago are interested in aviation and will cooperate with us providing we show them something to be interested in. A close-to-town flying field is the answer.

Airway Operations

"Regular and reliable operations night and day, regardless of weather, with a maximum amount of safety at minimum cost," — such is the most urgent need of airways in the opinion of Lieut. C. E. Crumrine, A. S., chief of the airways branch at McCook Field.

Lieutenant Crumrine writes on the outstanding needs of air travel as follows:

"The Air Mail, a unit of expert pilots, backed by a highly organized ground force has accomplished a tremendous amount along this line. Last year their percentage was 96, an almost incredible figure when one considers their relative infancy. Now let us see just how the Air Mail achieved these amazing results.

"Six first-class pilots, with 2000 hr. or more experience operate continuously over one section of the route, back and forth, week in, week out. They know this route as well as the average man knows his back yard, and it is well for them that they do, or there would be times when they would never reach their destinations. Often the clouds lie so low over mountainous sections that the pilots are forced to fly up through them. Checking on his time and the speed of the ship, the pilot has a fair idea when the mountains have been crossed and he can come down through the clouds without the risk of leaving his plane and himself a tangled mass. Then foggy weather may force the pilot to fly practically on the ground — the most dangerous type of flying. It then becomes necessary for him to thread his way up canyons and around mountains, narrowly missing tree tops and cliffs, finally picking up a familiar telephone line and following through.

"Checking these methods with other types of modern travel, one is not impressed with the safety of aviation. Therefore if we are to operate commercially and in competition with the successfully used modes of travel, there are certain outstanding needs which must be met. These are:

(a) Engines with greater reliability.

(b) Airplanes which will carry greater loads with lower landing speeds.

(c) Electrical altimeters which warn the pilot of an unseen mountain peak or high building.

(d) Radio direction finder for guiding through fogs.

(e) Gyroscopic control to relieve the pilot in moments of uncertainty, as it has been demonstrated that a gyroscopic control will keep a plane stable in many instances when a pilot is uncertain.

(f) Earth inductor compasses, which will be more dependable than our present type.

(g) Aerial maps.

(h) Better radio service."

Some Interesting Experiences

Lloyd M. Long, Manager of the South Western Division of the Fairchild Aerial Camera Corp. who has been flying over the Corsicana Section in Texas, had two interesting experiences in his first photographic flight over that region.

While at work one afternoon, Long was caught in a minor cyclone area. In describing his experience he said, "I could not keep the ship in any position — I raced the bubble around the level until I thought sure it would get dizzy. At times the ship climbed nose down and then would hit an area where we could not maintain altitude."

Late in the afternoon en route to Dallas, he had a forced landing, due to a stoppage in the gas line, without accident. When the trouble was remedied Long took off again into the dusk. It was his first night flight and as there was no moon he found his way across country by the head-lights of the automobiles below. Dallas was finally reached and passed at an altitude of 5000 ft. Over Love Field, Tex. Long had great difficulty in landing — there were no field boundry lights and several high obstructions. After making several circles, he dropped to 200 ft. and came in for a landing, narrowly missing a water tower and control house in the center of the field. After taxiing to a hangar, Long was told that cattle normally graze over the field at night but the circling of the plane scared them off.

Personals

Lee M. Clegg has been made sales manager of The Steel Products Company, of Cleveland and Detroit whose Thompson Silchrome Valves are used in many aircraft engines. Mr. Clegg was called in from his eastern territory last April to become assistant sales manager under J. A. Krider, secretary and treasurer. He began with the company in 1919, following his discharge from the Army, and worked in the production and efficiency departments before taking up sales less than two years ago. He graduated from the Case School of Applied Science in May, 1915.

Next Year's Flying Events

During the coming year five major aeronautical competitions are to be held. Bids are now being accepted by the National Aeronautic Association from cities who have the facilities and who are desirous of conducting aeronautical meets that will attract the attention of the aeronautical interests both in this country and abroad.

The Pulitzer Trophy Race is a race for high speed airplanes and will be the major event of the International Air Races. The three-day race program will probably include events for the Liberty Engine Builders' Trophy, the Detroit News Air Mail Trophy, the Aviation Country Club of Detroit Trophy, the John L. Mitchell Trophy and others, with cash prizes for each. Several cities are now bidding for the privilege of holding these races during the month of August or September, 1924. The Pulitzer Race is run over a 50 km. course and a landing field of approximately one square mile in area, with good approach, must be prepared. In addition, hangar space of approximately 32,000 to 48,000 sq. ft. with machine shop and service facilities for handling the racing planes must be provided. Camp facilities with adequate water supply are needed for military personnel.

The Jacques Schneider Cup Race for high speed seaplanes was brought to this country by Lieut. David Rittenhouse, USN who won the 1923 event with the Curtiss Navy Racer showing an average speed of 177.38 m./hr. French, English and American entrants were included in this year's race held Sept. 27 at the Isle of Wight, Cowes, England, so we can expect plenty of competition from foreign countries in their endeavor to regain possession of this valued trophy. Bidders for the 1924 race must furnish a suitable water course with hangar facilities for the racing planes. Rules and regulations for this race are now being prepared.

The holding of the Curtiss Marine Trophy Race has been awarded to Miami, Fla. The race is to be held March 7 and 8 during the Motor Boat Regatta. The regulations for these races are now being drawn up.

The National Elimination Balloon Race is to take place next spring in order to take advantage of the most favorable weather conditions existing at that time and in order to select the team for the 1924 Gordon Bennett Race.

The 1924 National Glider Meet will be awarded to the city having a suitable terrain and offering the best inducements in the way of prizes. By having the program of events published at an early date it is hoped to attract a large number of entries including foreign built gliders. The Allied Fliers Club of Berkeley, Calif. has already placed its bid and a great amount of interest is being shown in other sections of the country.

If sufficient interest is shown by those interested in low powered airplanes it is planned to hold a "flight plane" competition open to airplanes equipped with engines having piston displacement not to exceed 80 cu. in. This event may be included in the Glider Meet if it is deemed advisable.

The Rickenbacker Trophy donated by Capt. Edward Rickenbacker probably will be offered for competition in the same event in one of the above classes.

Trophies or prizes that patrons of American aeronautics may wish to offer for competition in aeronautical events during the coming year should be placed in the hands of the National Aeronautic Association, Contest Committee. The donor is privileged to specify the conditions under which the trophy is placed in competition. Secondary prizes for fastest lap, etc. will be accepted from accessory manufacturers and allied industries at any time previous to the day of the race.

Flying Field at Asheville, N. C.

The following information on the flying field at Asheville, N. C. has been received from Scott Dillingham, who owns the field and is organizing there a commercial aircraft company.

Class— Municipal. Communicate with the Asheville Aviation Co., Asheville, N. C.

Position— Located 3 mi. E. of the center of Asheville, in Haw Creek Valley on a plateau, ½ mi. N. of the hard surfaced paved Asheville to Black Mountain highway, and Southern R. R. tracks going E. from Asheville.

Description— The field is approximately 1000 ft. wide by 1500 ft. long, with several other small fields that could be used as an emergency landing. Surface is a natural sod which will not become muddy under any kind of weather conditions, as the field is just enough rolling to keep it well drained, so it can be used at all times the year around.

Obstructions— None, except very low three-strand wire fences around the field.

Signals and Marking— Marked by white circle "T" and wind cone.

Accommodations— Man in charge of field available at all times. Accommodations for personnel near field or in Asheville.

Repair Facilities— Minor repairs taken care of on the field or at garages in city; several ex-service aviators now employed at several of the garages in city.

Stores and Supplies— Aviator fuel, oil and water on field near by, with man in charge day and night.

Communications— Telegraph service near the field with telegraph and cable service in Asheville. Main highway with bus system on both sides of field with a ten minute ride to the city.

Meteorological Data— Available at the Weather Bureau station, Asheville, N. C.

N.A.A. First District Convention

The First District Convention of The N. A. A. was held in Boston on Thursday evening Nov. 8 and the following were unanimously elected.—

Porter Adams	District Vice-President
Godfrey L. Cabot	Governor-at-large
E. P. Warner	Massachusetts Governor
Waldo Brown	" Secretary
Frank Knox	New Hampshire Governor
H. E. Slayton	" " Secretary
James Hartness	Vermont Governor
E. H. Holterman	" Secretary
W. H. Gannett	Maine Governor
Paul F. Slocum	" Secretary
Commander A. C. Read	Rhode Island Governor
Lieutenant Trowbridge	" " Secretary
L. E. Horner	Connecticut Governor
E. J. Daly	" Secretary

In addition the following resolutions were passed by the Convention.

"*Resolved* that we, the First District, think the present an inopportune time to propose an international conference for aeronautic disarmament and believe that in general the initiative in any such proposition should lie with the Federal authorities at Washington."

"*Resolved* that we, the members of the First District, National Aeronautic Association, believe in the necessity of Federal regulation in civil aeronautics and urge all New England representatives in Congress to support the measure providing for such regulation and creating a Bureau of Civil Aeronautics in the Department of Commerce."

The Convention also passed a resolution recommending the establishment of a new class of membership in the Association to be known as the associate or organization membership, by which members of other associations could affiliate with the N.A.A. for a dollar or two a year, and have all privileges of the N.A.A. with the exception of voting power.

New Aircraft Census

The Bureau of the Census will take a census of manufactures covering the calendar year 1923. This work is done in compliance with the Act of Congress approved March 3, 1919, and the schedules have been prepared after conference with associations, and others interested in the various industries.

These schedules will be mailed during the first week of January and all those engaged in the aircraft industry are urged to make the reports promptly, as the Bureau has agreed to tabulate the data as rapidly as the schedules are received and to publish the tables within a few days after the receipt of the last report.

The Bureau has been cooperating very closely with the aircraft industry and desires to be of service. It is important that the reports be made by mail, otherwise the government will be put to the expense of sending a special agent to the various establishments. It is hoped that the aircraft industry will co-operate and make the reports promptly.

U. S. ARMY AND NAVY AIR FORCES

U. S. ARMY AIR SERVICE

Pioneer Flight to Central America

A very important pioneering flight will be undertaken by the Army Air Service in about six weeks from France Field, Canal Zone, to Guatemala City, and return for the purpose of establishing closer aeronautical relations between this country and the Central American Republics.

In an interview granted the Latin American News Service, General Patrick states that the Air Service will use three planes, one a photographic plane, to make visits of courtesy to the capitals of the Central American Republics, and, at the request of the Central American governments, our Air Service officers will photograph and chart landing fields and airways along the route followed. It is expected that this flight will demonstrate the practicability of carrying express matter, mail and passengers between the capital cities throughout the length of Central America.

General Patrick then pointed out that President Orellana of Guatemala was particularly interested in this flight, and has indicated as the policy of his government the encouragement of air mail services between the United States, Honduras, and other Central American Republics. Mail from New Orleans to Puerto Barrios, Guatemala, or Puerto Cortez, Honduras, would only require 10 hr. by plane, as against 3½ to 5 days by steamer, and the average saving in time for mails throughout Central America by plane would be three days over present methods of transportation. Honduras is prepared to assist in financing such an air mail service, President Gutierrez of Honduras states:

Dr. Gumonez, President of El Salvador; Dr. Garcia, President of Costa Rica, General Gutierrez, President of Honduras, General Chamorra of Nicaragua, recently deceased; and Dr. Porras, President of Panama, joined the President of Guatemala in requesting the United States government to undertake this flight of education and international courtesy. In this connection, Lieut. John M. Clark, A.S., of France Field, is now investigating the route to be flown and selecting the landing fields and providing for the supplies for the undertaking.

"There can be no question," General Patrick continued, "of the great value of this flight in connection with the establishment of governmental and commercial aviation in Central America. There are certain areas in Central America which are lacking in highways and railroad facilities, which makes transportation slow and at times practically impossible. Air travel will obviate this difficulty and link up the Central American states by important airways sufficient to carry mails, light express, and important officials and personages engaged in the commercial development of Central America and in a closer welding of the intersts of the various republics.

"Our visits to the capital cities of these governments will perhaps pave the way for air treaties between this country and the Central American republics, and might result in air missions between the various republics which would be of enormous assistance in extending the cordial relations now existing between the United States and Central America, and would further a union of the republics of Central America in commercial, political, and social intercourse. Our planes will map the airways by the aerial photographic method for the use of the various Central American governments, and will demonstrate the methods employed in this country for the establishment and maintenance of landing fields and airways which may be flown with safety, at the same time keeping in mind the economic factor in their establishment.

"From France Field, the planes will visit Santiago, Panama; San Jose, Costa Rica, Managua, Nicaragua; Tegucigalpa, Honduras; San Salvador, Salvador, New Guatemala City, Guatemala, and possibly Ayutla, Guatemala, which is at the extreme western boundary between Guatemala and southern Mexico. The planes will return by the same route, visiting Panama City, and thence to France Field.

"Thus, the Army Air Service," concluded General Patrick, "will contribute its share to the furtherance of Pan-Americanism, and the opening up of a new method of transportation in Central America. This cannot be other than a constructive step and is indicative of the forward-looking administrations in our sister republics.

"Aviation is every whit as adaptable to commercial as to military purposes, and the Central American recognizes this phase of its use most thoroughly. Moreover, the Air Service, in this enterprise, will again demonstrate its peace time value as a governmental agency for the public welfare."

The Long Trail

An extensive aerial journey to the Pacific Coast and return in a Martin Bomber of the Army Air Service is now under way having started several days ago from Fort Leavenworth, Kans. The route to be followed will be via the Air Mail route to San Francisco, then south to Los Angales, and return to Langley Field, Va., via San Antonio, Tex. The bomber participated in the airplane races recently held at St. Louis, and from there it was flown to Fort Leavenworth to participate in an aerial demonstration at that place. The crew of the ship are Lieuts. J. F. Whiteley and H. B. Smith, and Sergts. K. T. Wiederhamp and A. D. Jewel.

The flight was authorized by the Chief of Air Service in order that a bi-motored ship of the service type may show its ability to cross the continent by the Air Mail route, thus testing this route as a means of employing aviation for transportation in national defense from coast to coast, and allow the various activities interested in aviation on the west coast to see one of the most recent types of bi-motored light bombardment airplanes.

The bomber is regularly assigned to the 20th Aero Squadron, stationed at Langley Field, Va. According to last reports the plane had already reached Cheyenne, Wyo., and was proceeding to Salt Lake City, Utah.

Army Orders

First Lieut. John D. Barker, A.S., Panama Canal Dept., to Aberdeen Proving Ground, on completion present foreign service tour.

Sec. Lieut. Richard Andre Peterson, A.S., Kelly Field, to Coast Artillery Corps, Fort Enstis, Va.

Sec. Lieut. Michael Vincent Healey, A.S., Brooks Field, to Coast Artillery Corps, Fort Enstis, Va.

First Lieut. Charles Merrill Savage, A.S., promoted to Captain.

First Lieut. Edward V. Harbeck, A.S., Kelly Field, on completion temporary duty Post Field, to A.S., Tex. N. G., Houston, as instructor.

Sec. Lieut. Floyd Rowland Clafford, A.S.O.R.C., from active duty A.S. Primary Flying School, Brooks Field.

Maj. John H. Jouett, A.S., Field Officers' School, Langley Field, to other duties, that station.

Sec. Lieut. Joseph A. Physioc, jr., A.S., Balloon and Airship School, Scott Field, to other duties, that station.

Orders First Lieut. Leigh Wade, A.S., Aug. 25 (amended Sept. 4), further amended, relieving Lieutenant Wade from duty McCook Field and directing him to report to C.O., Bolling Field, for duty.

Resignation First Lieut. Edward Meeker Haight, A.S., accepted.

First Lieut. Richard P. Boykin, Q.M.C., from Langley Field Dec. 11, to Q.M.C., Panama Canal Dept., C.Z., sailing transport leaving New York City Dec. 27.

Army Orders

Orders Aug. 22, Sec. Lieut. James Smith McDonnell, jr., A.S.O.R.C., Little Rock, Ark. to Brooks Field, amended directing Lieutenant McDonnell to proceed from Boston, Mass., his home.

First Lieut. Pinvee P. Hill, A.S., Fort Bliss, now temporary duty Photographic School, Chanute Field, to permanent duty this station.

First Lieut. James P. Hodges, A.S., Technical School, Chanute Field, to Mitchel Field, on expiration leave of absence.

First Lieut. Charles Y. Banfill, A.S., Chanute Field, to Brooks Field, on expiration leave of absence.

First Lieut. Lionel H. Dunlap, A.S., from duty as C.O., Fifth Photo Sec., Chanute Field, to Fairfield Air Intermediate Depot.

First Lieut. Edwin B. Bohnen, A.S., Photographic School, Chanute Field, to command Fifth Photo Sec., that station.

First Lieut. Phillips Melville, A.S., Aberdeen Proving Grounds Office, C.A.S., Washington, by Nov. 19.

Pamphlets Worth Having

The Office of the Chief of Air Service has just informed AVIATION that free distribution will be made to our readers of the pamphlets listed below:

(1) Curtiss Standard Model OX5 Aeronautical Parts List.
(2) Curtiss Standard Model OX Aeronautical Motor Handbook.
(3) Curtiss Standard JN4D Military Handbook.
(4) Le Rhône Engine, 80 hp. Instructions for Hispano-Suiza Model A.I.E. Aeronautical Engines, Care and Operation.
(5) Aviation Pocketbook (1917-1918).
(6) Aircraft Armament Handbook.

As the supply is limited and requests will be filled in order of their receipt, it is suggested that application be made at once for such of these pamphlets as desired to the Chief of Air Service, Munitions Building, Washington, D. C.

U. S. NAVAL AVIATION

Appropriations, 1923-24

The 1923 appropriations for Naval Aviation will approximate $75,000,000 if the figures understood to have been approved by the Director of Budget are passed by Congress.

Originally the Navy Department asked for approximately $25,000,000, for Naval Aeronautics, about $5,000,000 of which was scheduled for planes and equipment the balance for the operations of the Bureau and squadrons.

A joint report of Army and Naval aeronautical officers recently made to Secretary of War Weeks is now before Secretary Denby, but no official comment has been made public by either Secretary.

Pearl Harbor Planes

An HS2L flying boat from the Naval Air Station, Pearl Harbor, Hawaii, together with six DT seaplanes from the Battle Fleet Air Detachment, attended the annual Maui County Fair at Kahului, Hawaii. The Navy was well represented at the fair, as besides the seven planes, a destroyer, a mine sweeper and several submarines were present in Kahului harbor and formed an attractive second only to the fair itself.

Aircraft Squadron for Manila

Squadron 20 of torpedo and bombing planes will shortly be organized at San Diego by Lt. Cdr. George D. Murry, U.S.N., who will then take them to Manila or some other station with the Asiatic Fleet, it is now planned. The squadron will depart for its new station on the U.S.S. Vega early in December. This will be the first aerial squadron in the Asiatic.

Marine Flying Field, Santo Domingo

A new recreation hall has recently been opened at the Marine Flying Field at Santo Domingo City, Dominican Republic. The Commanding General of the Marine Forces in Santo Domingo and many other officers, with their families, attended the opening. Motion pictures were shown and music was furnished by the First Marine Regiment Band.

Shenandoah Moored to Mast

The Naval airship Shenandoah was successfully moored Nov. 16 to the mast constructed for that purpose at Lakehurst naval air station. It is the first feat of its kind ever to be accomplished by American airmen.

Capt. Frank R. McCrary, in command of the ship, and Capt. Anton Heinen, the German construction engineer who supervised the building of the Shenandoah, directed the work. Gradually descending, Captain McCeary brought the Shenandoah to the west of the hangar, her nose about 200 ft. above the ground. She glided toward the apex of the mast, which stands 1,500 yds. west of the hangar. As she approached, there was dropped from the nose a steel cable to which the ground crew attached the end of another cable let down from the top of the mast.

The ship settled by degrees as a windlass in the tower of the mast wound in the cable and took up the slack, drawing the nose into a swivel on the extreme uppermost point of the tower, 172 ft. above the ground. A cone on the bow of the Shenandoah fitted into this swivel, which automatically locked as the cone entered.

General use of the mast will minimize the greatest danger to which the airship is subjected—that of taking it in and out of the hangar.

Ordinarily over 300 men are required to bring the Shenandoah into the hangar. It required only three officers and fifteen men to moor her to the mast.

Coast Artillery Commends Navy Planes

The following extracts are taken from a report to the Commandant of the Naval Air Station at Pensacola from Brig. Gen. Wm. H. Johnson, U.S.A. Commanding the Fourth Artillery District. The report is in reference to the cooperation recently given by Naval aviators during target practice conducted in the vicinity of the Naval Air Station by the Coast Artillery.

"The Naval observers detailed for the practice were trained spotters and pilots. The excellence of the spotting during the balance of the practice was remarkable, and adjustment was secured by the battery Commander without difficulty.

"The Coast Defense Commander desires to report the courtesy and interest shown by Capt. J. J. Raby, U.S.N. Commandant of the Pensacola Naval Air Station, in detailing the personnel and material to assist at this practice and the hearty cooperation and efficiency of the officers and men detailed, without which the practice could not have been held."

Helium Storage at Lakehurst

With the demonstrated success of helium in airship operation in the flights of the Shenandoah, an adequate plant for the storage of this costly gas at the Lakehurst hangar has become necessary. The Bureau of Yards and Docks, Navy Department, is now working out a design for the construction of this plant, which will probably be undertaken by the station forces.

Helium containers 40 ft. in length, with a shell 4 in. thick, have been purchased by the Bureau of Aeronautics and are now being delivered. They will hold gas at a pressure of 200 lb. per square inch. The gas in each of these great containers, when expanded to balloon pressure will occupy a volume of 50,000 cu. ft.

The ten cylinders will be placed under-ground and two concrete galleries will be built at the end of the two rows of cylinders. One of the concrete galleries will contain the necessary piping arrangements for admission and discharge of helium and the other used for inspection purposes.

Air Mail Pilots Assist Navy Plane

A DH4B plane that was recently flown from the Naval Air Station at San Diego, Calif., to St. Louis was rendered very valuable assistance by the Air Mail Service on numerous occasions. Service, including spare parts, was furnished to the Navy plane at several points during the trip to and from St. Louis. The Commanding Officer, Naval Air Station, San Diego, has written a letter to the Air Mail Service thanking them for this aid that contributed so much to the successful completion of the flight.

C.O. Talks with Plane in Flight

The pilot of a Martin Bomber conversed with the office of Col T. C Turner, U S M C, in charge of Marine Aviation, with the greatest ease while the plane was in flight over the Potomac River on Nov 5. It was a test of the use of radio telephony between a station and a plane in flight The words of the pilot in the Martin Bomber were received at the Navy Department and were heard through a loud speaker in Colonel Turner's office The telephone on Colonel Turner's desk was connected to the sending set at the Arlington radio station and the pilot in the plane was able to hear the Navy Department very clearly The communication was kept up while the plane was as far down the river as some miles below Fort Humphries.

This method of radio communication with a plane in the air was used by the Marines with excellent results during the Virginia maneuvers this summer and also during the exhibitions during the Shrine Convention in Washington last June. The principal advantage of this form of communication over the other forms in use is that it eliminates the use of code, and permits both pilot and station operator to converse naturally

Naval Aviators Practice Night Flying

Aircraft operations at night are occupying the attention of Navy pilots on both the Atlantic and Pacific coasts The landing fields at the Naval Air Station at Hampton Roads has been equipped with illumination for night landing and a considerable number of flights at night have been made The Aircraft Squadrons Battle Fleet have been engaging in night spotting practice with stationary batteries. The targets are illuminated by flares from the planes and the fall of the projectiles are spotted in the usual way A number of planes in that organization have been equipped with night landing flares, as a precaution in case of forced landing at night When a plane is compelled to land at night the flares are set off when the plane approaches the ground, thus illuminating the section in which the landing is to be made

The night operations by the Navy's aviators will do much to increase the effectiveness of aircraft operations, freeing them from the usual handicap of danger in operations after dark, and will add to the value of the aerial arm of the Navy.

Cheaper Helium in Sight

A small plant for helium extraction, employing a new principle, has been started near Fort Worth, Tex., under the direction of the Bureau of Mines The output of this plant will be controlled by the Helium Board Preliminary results indicate that it will be possible to obtain helium by the new method at a very much reduced figure It has been stated by a prominent engineer that the savings obtained from the operations of this plant for one year will pay for the cost of the new equipment. Any advance made in the methods of extracting helium cannot fail to be of great value to the commercial and military development of lighter-than-air aviation

Ft. Hamilton Reserve Air Station

The syllabus used in training reserve aviators at the Naval Reserve Air Station at Fort Hamilton is notable for the completeness of the course. Results show that it has been very faithfully followed

The amount of flying time at the station has been kept considerably below that desired by the officers of the station due to the necessity of making repairs to equipment and buildings that has engaged the activities of the men With everything in ship-shape order, we may be sure that the flying time at Fort Hamilton will undergo a very marked increase.

Wright and Aircraft Squadrons

The U.S.S Wright and the Aircraft Squadrons Scouting Fleet left the Naval Operating Base at Hampton Roads, Va., on Nov 8 and proceeded to Baltimore, remaining there three days From Baltimore the Wright and the planes were scheduled to proceed to Philadelphia, where they will undergo overhaul and be refitted at the Navy Yard and the Naval Aircraft Factory there in preparation for the maneuvers with the Fleet this winter, starting Jan 4

PUBLISHER'S NEWS LETTER

Mark Twain, when editor of a small-town peper, received a letter from a superstitious subscriber, saying he had found a spider in his peper, and asking whether that was a sign of good luck or bad. The humorist printed the following answer:

"Finding a spider in your peper was neither good luck nor bad luck for you. The spider was merely looking over the peper to see which merchant is not advertising, so he can go to that store, spin his web across the door and lead a life of undisturbed peace ever afterward!"

This was recently recalled by Floyd W. Parsons in *The World's Work*. It is evident that in the old days of the Middle Western country newspapers the publishers had the right idea of the possibilities of advertising. But even in this enlightened time, the aeronautical industry, with two or three impressive exceptions, has neglected this modern force in business

* * * *

If any of our readers should find any extraneous intruder in his weekly copy it would probably be a grape. And that leads to the pleasantest side of our daily grind. You will probably wonder how a grape could possibly find its way into a copy of AVIATION. Probably you have occasionally noticed that AVIATION is mailed from Highland, Ulster County, New York. That is the answer to the grape mystery. Surrounding Highland is the most noted grape district in the East Everyone at this time of the year is immersed in grapes. Grapes by the ton, by the carload, go from this wonderful fruit country to all parts of the United States. So, if you should happen even to find the stain of a grape—you will know the reason

* * * *

Let us spend a delightful day together in making a visit to our little printing shop in Highland. We will start from our business and editorial offices in New York and motor the seventy-five miles up the Hudson River Valley to the other center of our publishing business. We drive up busy Fifth Avenue to Central Park with its beautiful meadows and picturesque lakes. Then pass along the noble Riverside Drive, stopping a moment to pay a respectful visit to the majestic tomb of General Grant And then we roll along the beautiful roads of the Hudson River Trail, passing some of the most lovely country estates in the East. History is also bleeded with beautiful views. Almost at every turn recollection brings to mind happenings of revolutionary times.

* * * *

Sleepy Hollow gives a literary touch to the journey The Irving traditions and stories almost make one friends again with the Headless Horseman, and, in the distance, the Catskills give old Rip Van Winkle renewed impressions on our minds. Soon we cross the river to West Point and receive the inspiration that comes to everyone who visits our great military academy We now climb the side of the hills and have spread before us one of the greatest views in the United States. Hewn out of the solid rock front of this hitherto natural barrier to all northbound traffic on the west bank of the Hudson, is the new Storm King Road that ascends the face of this precipitous cliff hundreds of feet and although only opened this year has become the focal point of all sightseeing motoring trips of the east.

* * * *

Let us stop just for a brief visit with that friend of all fliers, Brig. Gen. Milton F. Davis, who was Chief of Staff of the Air Service during the war He is the head of the New York Military Academy at Cornwall, where every airman receives a most hospitable welcome from this big good-natured friendly General of the Reserves of our Air Service. Don't fail to visit him and his model school when you are on this trip You will receive a real welcome

* * * *

And now we are nearing Highland. This fruit country is alluring in its charm The grape vines extend for miles, while the general prosperity of the countryside is indicative of many decades of productive returns from the soil

Highland is at the western end of the famous Poughkeepsie Bridge that spans the Hudson midway between New York and Albany. Winding up from the riverside for about a mile, the road follows a brook that is a constant reminder of the glory of rushing waters Our little village is typical with its well seasoned church buildings, a First National Bank that is a model of newest architectural design and furnishings, the homes are real homes, substantial and full of the things that make for contentment in life.

* * * *

Our printing shop is located beside a brook and the music of the water is a continuous delight to the ear. Trees and the country side vistas add to the charm. An observing writer of a New York column commented on the ideal conditions prevailing in this location. We will not take you inside for there you would see just a simple printing office. Suffice it to say to our readers that their peper is printed in our own printing shop by contented and interested townsfolk amid these ingratiating surroundings.

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